Sustaining America's Strength for Innovation:

What's the Role for Our Federal Labs?

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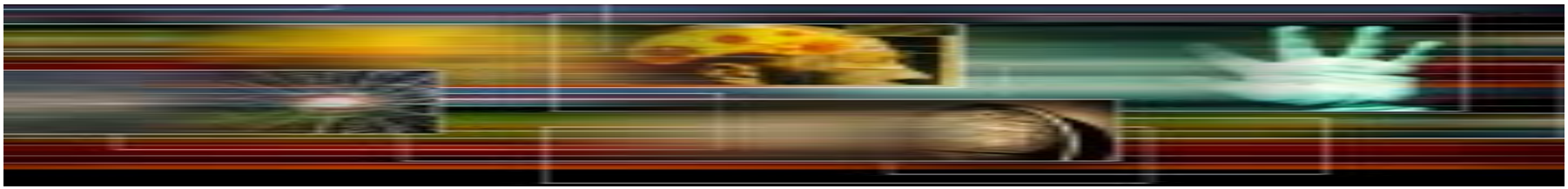
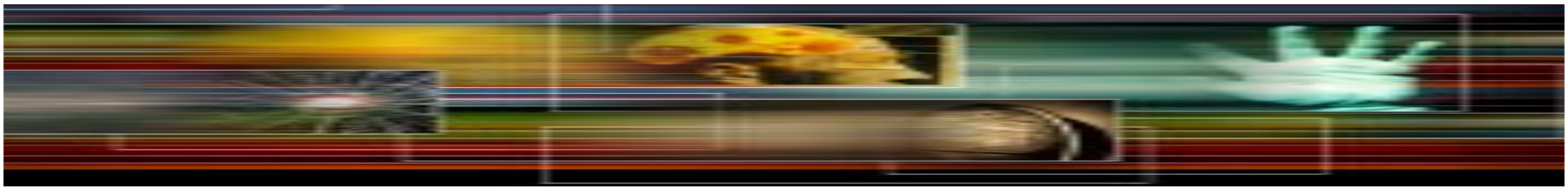
Growing Importance of Innovation Strength – The Big Picture



- ***U.S. economy and technology sectors now enjoy an advantageous position***
- ***Thanks to the success and hard work of our scientists, technologists, and entrepreneurs!***
- ***Federal contribution to the national R&D enterprise has been critical***
- ***But with changes ongoing abroad, we are going to have to work to sustain our leadership***

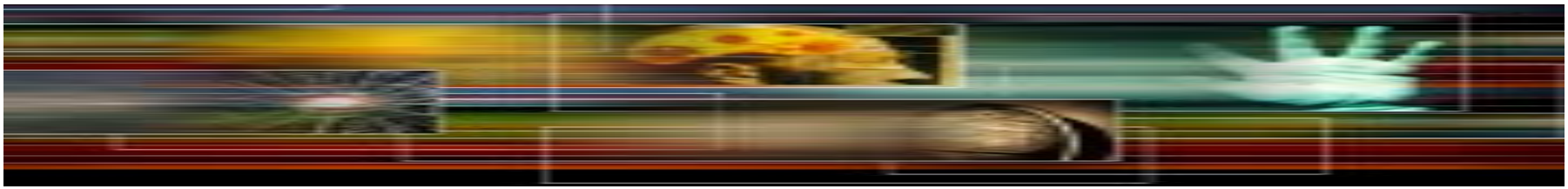
Sustaining America's Strength for Innovation

Main Topics for Remarks



- ***The changing wealth of nations – innovation as the engine***
- ***The Good News / Bad News for US competitiveness***
- ***Role of the federal labs and technology transfer***
- ***Present OTP activities concerning the federal labs***

Technological Progress is on an Exponential Growth Path



- **Human knowledge now doubles every 10 years**
- **More scientific knowledge created in past decade than in all human history**
- **Computer power doubling every 18 months**
- **Internet doubling every year**
- **Number of DNA sequences we can analyze doubling every two years**

Michio Kaku - Visions

Why Knowledge is King
The Out-Sized Impacts of Technology Industries

IMPACT OF IT

- **Only 7% of all businesses!**
- **28% GDP growth**
- **2x new job growth**
- **2/3^{rds} of new productivity growth**

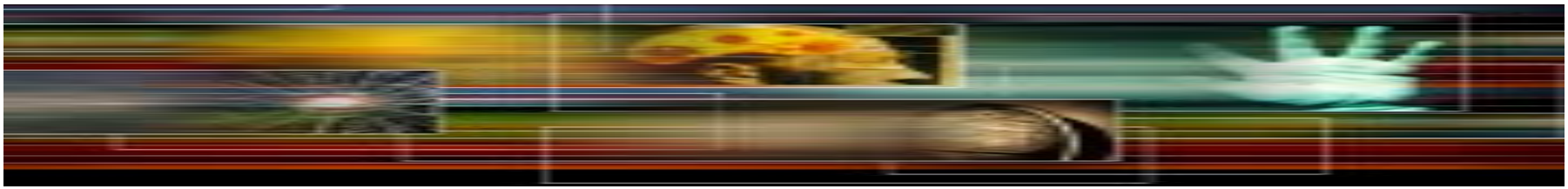
IMPACT OF LIFE SCIENCES

- **Better life expectancies: ~ $2.4 trillion in annual net gains**
- **Equiv. to all other goods and services *combined***

Source: Department of Commerce, Economics & Statistics Administration, Digital Economy 2002

Why Knowledge is King

Emerging Technologies' Impact Likely Even Greater

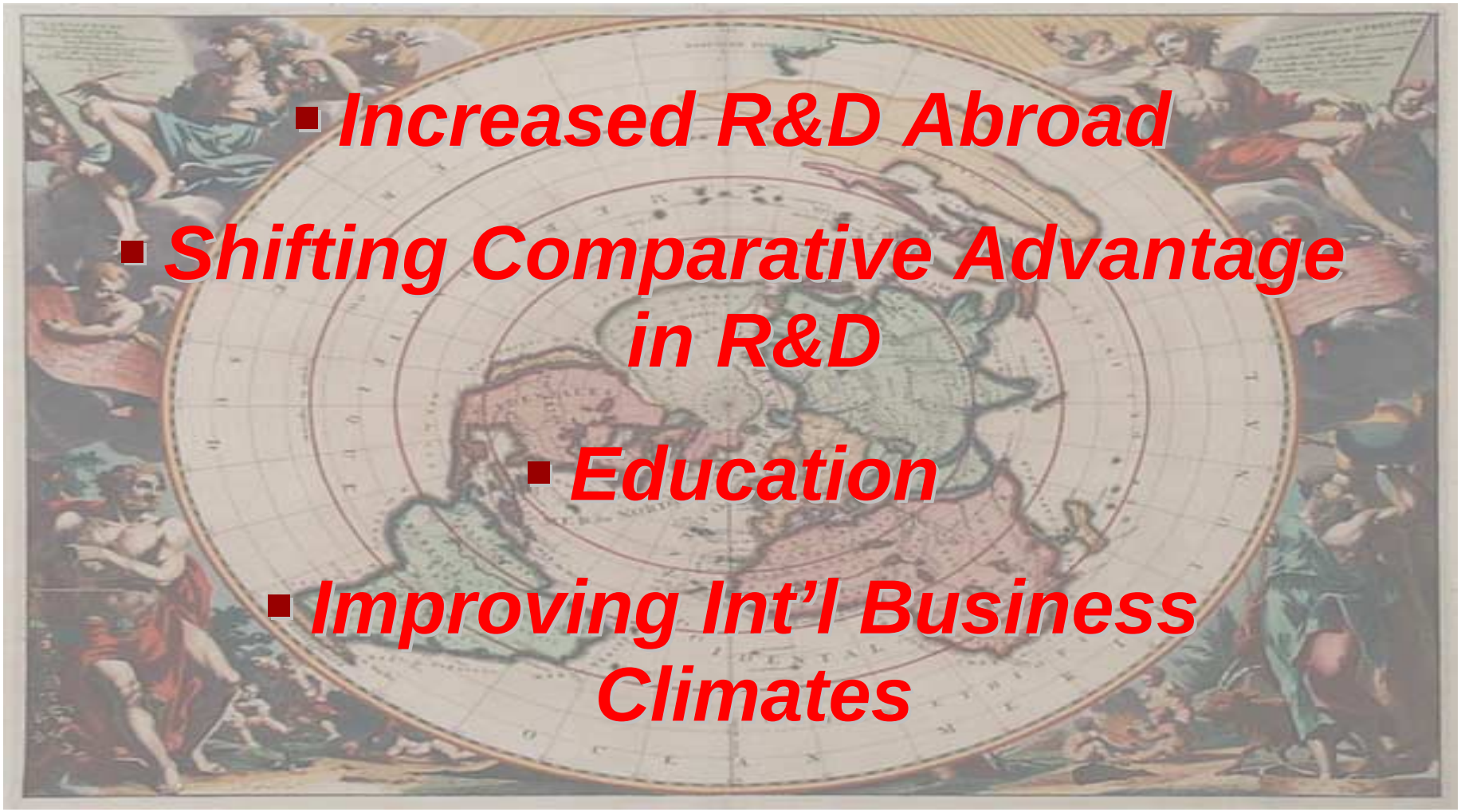


- ***Nanotechnology***
- ***Ongoing advances in biomed/biotech***
- ***New computing technologies***
- ***New energy supply/end-use systems***
- ***Advanced materials***
- ***….. and more***

US Global Competitiveness in the Information Age: The Good News

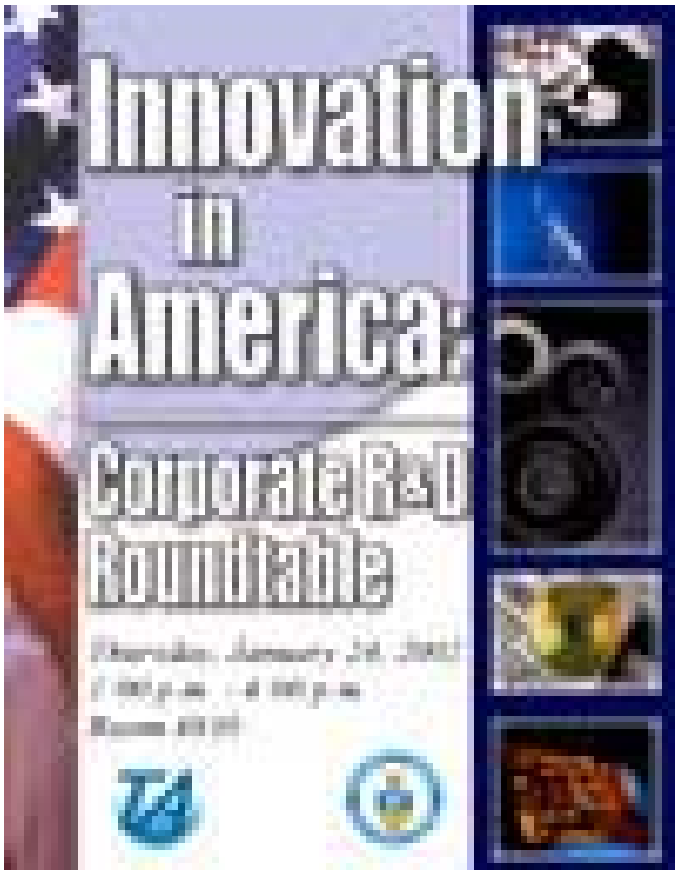
- *Most Patents Per Capita*
- *Most Research & Development*
- *Leading producer globally of high-tech products*
- *More Research-Intensive Workforce*
- *More Scientific Publications*
- *Most Attractive Universities & Business Climate*

US Global Competitiveness in the Information Age: Challenges



- *Increased R&D Abroad*
- *Shifting Comparative Advantage in R&D*
- *Education*
- *Improving Int'l Business Climates*

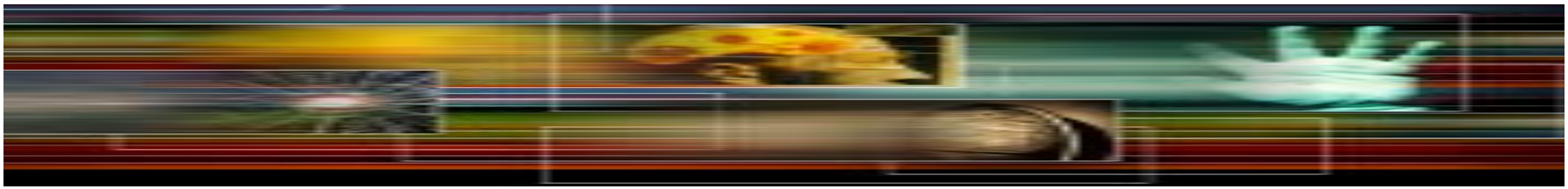
Technology Administration 2002 Roundtables on the U.S. Innovation System



- **Corporate R&D Roundtable (*January 24, 2002)***
- **Federal Lab R&D Roundtable (*April 2, 2002)***
- **University R&D Roundtable (*June 11, 2002)***

(transcripts: www.ta.doc.gov)

Sustaining Our Innovation Leadership
Reasons for Optimism



- ***Capable national R&D enterprise and world-class scientists and engineers***
- ***History of achievement***
- ***Sustained federal leadership and support***
- ***Success at the transfer of federally-funded S&T***

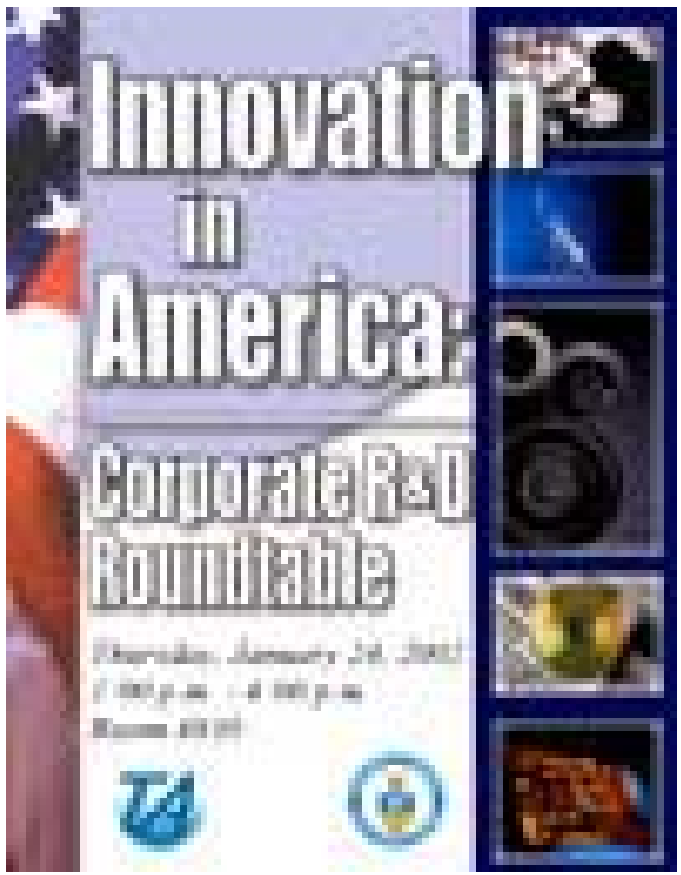
US Global Competitiveness in the Information Age: the Federal Labs

ARE THE LABS A *GOOD NEWS* OR *BAD NEWS* STORY?

- History of success.
- World-class scientists.
- Deep and ongoing relationships with world's leading innovators.
- Ongoing federal missions.
- Adding value to regions and communities.

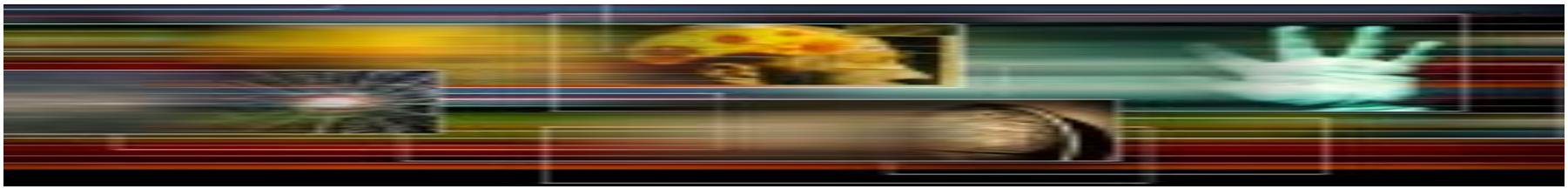
- Aging workforce and physical plant.
- Growing alternatives for industry partnerships around the world.
- Growing challenges in partnering with corporations (speed, IP, security, perceived competitiveness).
- Concerns about federal lab tech transfer.

The Role of Federal Labs -- *The Questions*



- **Is tech transfer still valued or valuable?**
- **Can the labs still be good partners with industry in today's speed-to-market, global world?**
- **Are labs fully aware-of and maximizing their intellectual assets?**
- **Do we need to consider fixes or changes to the tech transfer laws and policies?**

Current OTP Activities Related to the Federal Labs



- *USG Tech Transfer Policy*
- *InterAgency Working Group on Tech Transfer*
- *Reporting to the President and Congress on Federal Lab Tech Transfer*
- *Report on Foreign Participation in Federal Lab Tech Transfer*
- *Federal Labs and Economic Development*

Closing Thoughts

- Scientific discovery and tech innovation ever more important for our economic success
- Our continued leadership is anything but assured in the global economy
- The Labs play a vital role in America's innovation system – and we need you to continue to rise to the challenges
- Tech transfer remains an important concept, benefiting our economy and helping labs perform their missions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